

Table 10. Current age of academic research instruments, by detailed type of instrument: 1993

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Detailed type of instrument	Current age (percent of total systems)						Mean age (in years)
	Total	0 - 2 years	2 - 4 years	4 - 6 years	6 - 8 years	8+ years	
Total, all instruments	100%	17%	23%	21%	18%	23%	5.8
Computers and data handling instruments	100	18	31	23	20	9	4.0
Computers/components costing:							
\$1,000,000 and over	100	17	7	70	7	0	3.5
\$500,000 - \$999,999	100	10	44	36	6	4	3.7
\$50,000 - \$499,999	100	12	26	23	27	12	4.6
\$20,000 - \$49,999	100	21	34	22	16	7	3.7
Chromatographs and spectrometers	100	14	21	19	15	32	6.0
Chromatographs and elemental analyzers	100	16	27	20	14	22	4.8
Electron/auger/ion scattering	100	21	10	18	17	34	6.1
UV/visible/infrared spectrophotometer	100	12	18	23	13	34	5.8
NMR/EPR spectrometer	100	9	10	21	15	45	8.4
Xray diffraction systems	100	23	10	16	21	29	5.9
Other spectroscopy instruments	100	12	23	15	14	36	6.9
Microscopy instruments	100	18	23	18	15	27	6.8
Electron microscopes	100	6	21	21	12	41	9.4
Other microscopy instruments	100	24	23	16	16	21	5.5
Bioanalytical instruments	100	12	16	25	16	31	8.2
Cell sorters/counters, cytometers	100	23	22	18	21	16	4.6
Centrifuges and accessories	100	11	16	27	16	29	7.5
DNA/protein synthesizers/sequencers/analyzers	100	26	15	22	18	19	6.5
Growth/environmental chambers	100	11	22	29	14	24	5.9
Scintillation/gamma radiation/counters/detectors	100	7	15	22	13	43	10.9
Other instruments	100	20	23	19	16	21	5.3
Electronics instruments (cameras,etc)	100	7	17	27	31	18	5.5
Temperature/pressure control/measurement instruments	100	22	19	21	18	20	5.0
Lasers and optical instruments	100	30	21	23	8	19	4.2
Robots, manufacturing machines	100	47	22	9	10	12	3.4
Telescopes/astronomical	100	*	58	4	1	36	6.9
Nuclear reactors/nuclear science instrument systems	100	0	7	25	36	32	10.7
Research vessels/planes/helicopters	100	0	38	24	13	25	5.8
Wind/wave/water/shock tunnels	S	0	0	S	0	S	S
Molecular/electron/ion beam systems	100	43	8	11	4	34	5.5
Major prototype systems	100	7	45	9	19	21	7.1
Other, not elsewhere classified	100	18	24	18	17	23	5.7

NOTES: Data in this table were not collected for supersystems, which are large, integrated instrumentation systems/facilities generally with an aggregate purchase price of \$1 million or more.

Because of rounding, percents may not add to 100.

KEY: * = less than 0.5 percent
S = fewer than 10 cases for analysis

SOURCE: National Science Foundation/SRS, Survey of Academic Research Instruments and Instrumentation Needs: 1993